

- **Configuration Tab**

The "Configuration" tab allows a few parameters to be configured. At the "SYSTEM" section, data like equipment description, number of installed phases and nominal voltage can be updated. "NETWORK" section allows the equipment's network data to be changed.

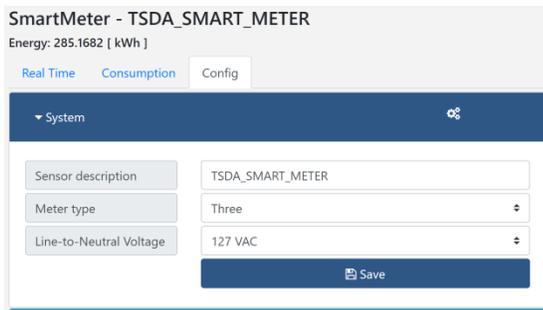


Figure 6. System Configuration

[WARNING]: The network data is sensitive and can lead the device to lose his reachability. If that's the case, refer to "FACTORY DEFAULT" section at the end of this guide.

Smart Meter Sensor is able to send SNMP TRAPS to a specific IP address. That feature can be found at "SNMP" section, as well as the device MIB file. Each monitored parameter has an alarm range and a hysteresis that can be configured at "ALARMS" Section.

The "I/O" section allows the setup of each one of the eight GPIO's ports. To ease the port identification, a "TAG" can be addressed to any port, as well as the port type, like "OUTPUT", "DIGITAL INPUT" or "ANALOG INPUT". A 12 bits ADC is used for analog input conversion.

[WARNING]: Never apply negative voltages at any GPIO's and never exceed 3.3 [Vdc] range on those pins!

- **Restoring Factory Default Configuration**

If you lose access to Smart Meter Sensor or need to restore factory default settings, just do following procedure:

1. Turn off the device.
2. Open up the device's box.
3. Place a jumper at JP2 position.
4. Turn on the device and wait ten (10) seconds.
5. Turn off the device.
6. Remove the JP2 jumper and turn equipment on again.

[WARNING]: The factory default procedure will erase ALL device's data. The device will be available again at the default IP address "192.168.1.199".



QUICK INSTALLATION GUIDE

Smart Meter Sensor – SNMP LINE

SM3100S Model

This document will give customers the information needed to install and configure the TSDA Smart Meter Sensor. This sensor provides real-time information for electric energy quality parameters and consumption. Besides, it can store up to 60 days of energy consumption data. For detailed information, refer to Smart Meter User's Guide.

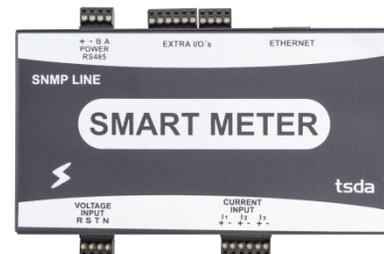


Figure 1. Smart Meter SNMP Sensor

- **Powering Up Smart Meter Sensor**

There are two ways to power up the Smart Meter Sensor. The first one is using an external DC power supply, from 9 [Vdc] to 50 [Vdc], requiring less than 5[W] of power consumption. The last one is using the R input to use the AC input voltage as a power supply.

[WARNING]: The power supply mode is not done automatically. It needs to be done manually by setting the jumper JP1 to position 1 or 2.

Position 1: set up the device to make use of AC voltage at Voltage Input R.

Position 2: set up the device to make use of an external DC power supply, that must be connected to pins (+) and (-) from the Power Connection (9 [Vdc] to 50 [Vdc]).

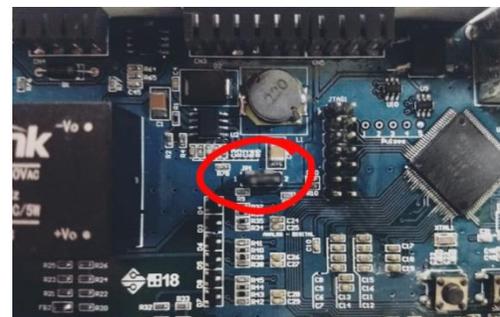


Figure 2. Power Supply Jumper Selection

- **Connecting Voltage and Current Transformers**

Once the sensor's power supply source is properly selected, it is required to connect voltage and current samples to equipment. By performing that, the Smart Meter Sensor can do its full functionality.

AC voltage is directly applied to VOLTAGE INPUT pins. This sensor can receive up to three phases, but it can be also used with one or two phases. Always connect NEUTRAL reference to N input pin. From each phase to neutral can be applied up to 260 [Vac].

[WARNING]: Reversing the input connections may damage your equipment! Make sure to connect phases on R, S and T input and neutral to the N input!

Current is sensed using Current Transformers (CT's). They are connected to CURRENT INPUT pins and must be observed sensor's polarity and current flow to obtain valid power measurement values. 100A / 50mV CT's are required for the default version of the SNMP Smart Meter, as shown below:



Figure 3. Current Transformer for Current Sensing

- **Smart Meter Sensor GPIO's**

There are eight (8) General Purpose Inputs / Outputs (GPIO's) available on Smart Meter Sensor and they can be accessed through a web interface or by SNMP Protocol. Maximum voltage level on each GPIO port is 3.3 [Vdc] and no more than 20 [mA] can be drained on these pins. External drivers must be used to activate / deactivate external loads such as lamps and HVAC.

No automatic logic is applied to those GPIO's. Any automated control or decision must be made by an external software or agent.

- **Accessing Smart Meter Sensor's Webpage**

Real-time data and consumption can be acquired directly through a sensor's web page or by SNMP Protocol. The default IP address for Smart Meter SNMP Sensor is "192.168.1.199". To access equipment's web interface, a static IP address must be assigned to your computer by setting up the network address to "192.168.1.0 /

255.255.255.0". Then, connect your computer to Smart Meter Sensor by using an Ethernet patch-cord or through an Ethernet Hub or Switch.

The Smart Meter Sensor web browser's interface can be accessed after the previous network configuration is done. The compatible web browser is Google Chrome. To do that, open the web browser and type the equipment's IP on address bar. No password is required to perform this access.



Figure 4. Smart Meter Sensor Web Page

- **Real Time Tab**

Real-time data regarding electric energy parameters, on-line total consumption and GPIO's can be visualized at "Real Time" tab. Smart Meter Sensor provides the following data: "RMS Voltage", "RMS Current", "Active Power", "Reactive Power", "Apparent Power", "Power Factor" and "Frequency per phase".

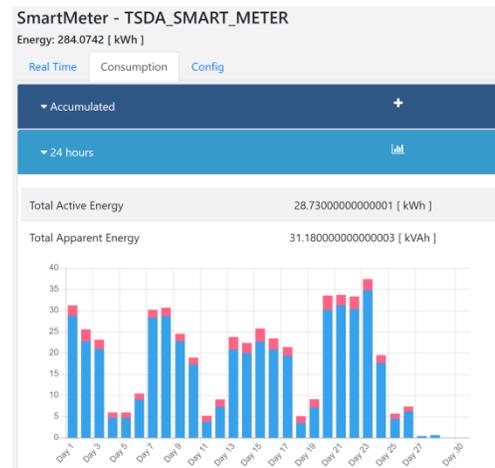


Figure 5. Consumption Information

- **Consumption Tab**

At "Consumption" tab, data such as accumulated (lifetime total) consumption and consumption by period (24 hours, 7, 14 and 30 days) are displayed. "Active" and "Apparent" energy parameters are shown at consumption by period. The chart will display up to the last 60 days.